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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER

PAYNE, DAVID C

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/779,184

Applicant(s)

LAUDER ET AL.

Examiner

David C. Payne

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 . 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-18 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant does not provide adequate description as to how redundant data carried over a single fiber with the normal traffic can route around a failure in the fiber. Furthermore, the wording of claim 1 appears to claim the bi-directional transfer of data and redundant data on a single fiber. However, the Examiner has not found a drawing for this embodiment or adequate description of this in the specification. For example, Figure 1c, illustrates two fibers where each carries bi-directional traffic, but redundant traffic is carried on separate fiber as is typically the case. The application does not appear to describe how both normal and redundant traffic is carried on a single fiber and moreover how redundant data can serve to protect normal traffic in the event of failure over the same failed fiber.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

Art Unit: 2633

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It appears that the applicant is claiming an embodiment that is different than what the specification teaches. More specifically, it appears that the applicant is claiming bi-directional working and protection traffic over a single fiber that appears inconsistent with Figure 1c.

Regarding claim 11,

the claim language grammar “wherein the optical ring network structure is arranged in a manner such that pre-emptible data is being transmitted on the groups of wavelengths provided for the redundant data transfer when the optical ring network structure is in normal operation,” makes its unclear to the Examiner what is actually claimed. Applicant must reword the claim to make it clearer.

Drawings

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the bi-directional data and redundant data transfer on a single must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-8 and 10-18 (insofar as they are understood based on the 112 1st/2nd paragraphs above) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. US 6,278,536 B1.

Based on the 112 1st and 2nd paragraph rejections above, the application is examined based on the embodiment as depicted in applicant's Figure 1c that shows two fibers, one carrying bi-directional working traffic, and the other bi-directional protection traffic.

Re claim 1, 11, 17 and 18, Kai disclosed

An optical ring network structure comprising: two or more network elements, and a single optical fiber connection between each pair of neighboring network elements for carrying an optical signal, wherein the ring network structure is arranged in a manner such that, in use, band allocation utilizing multiplexing on each single fiber connection is chosen in a manner such that groups of

Art Unit: 2633

wavelengths for bi-directional data transfer and for bi-directional redundant data transfer for protection respectively are provided on each single fiber connection. (Figure 1) Kai also disclosed bi-directional transfer on separate protection and working fibers but not all on a single fiber, but does not disclose working and protection traffic over a single fiber. It would have been obvious to one of ordinary skill in the art at the time of invention that a protection mechanism must operate over two fibers as disclosed in Kai in order to continue data transmission in the event of a fiber failure. Protection traffic must necessarily travel over separate fiber facility in order to provide an alternate path for a fiber break.

Re claim 2, Kai disclosed

wherein the optical ring network structure comprises MUX/DEMUX means located at each network element for multiplexing and de-multiplexing the optical signal, depending on the propagation directions of the respective wavelengths in the optical signal with respect to the MUX/DEMUX means (e.g., col./line: 3/25-30, Figure 1 (22) (23) (32) and (33)).

Re claims 3 and 4, Kai disclosed

wherein the MUX/DEMUX means comprises a 3-port circulator disposed to combine counter propagating traffic from a unidirectional multiplexer means and to a unidirectional de-multiplexer means of the MUX/DEMUX means (e.g.,

col./line: 3/25-30, Figure 1 (22) (23) (32) and (33)).

Re claims 5 and 13

Kai does not disclose, wherein the MUX/DEMUX means comprises a dense WDM MUX/DEMUX and a coarse WDM MUX/DEMUX, wherein the coarse WDM MUX/DEMUX is disposed in a manner such that, in use, it drops and adds certain wavelength bands at the network element to and from the fiber connections to further demultiplexing and from multiplexing by the dense WDM MUX/DEMUX. Rather, Kai disclosed the aforementioned circulators that are capable of adding and dropping wavelengths (or Figure 14 (105b)). It would have been obvious to one of ordinary skill in the art at the time of invention to separate the demultiplexing function into granularities of WDM and coarse WDM for the benefit of managing bands of wavelengths. However, making parts separable is not considered patentable over the prior art.

Re claim 6, Kai disclosed

wherein the optical ring network structure is arranged in a manner such that the data transfer and the redundant data transfer are transmitted concurrently (Figure 1).

Re claims 7, 8 and 12, Kai disclosed

wherein the ring network structure comprises means for selecting (switch)

between receipt of either the data transfer or the redundant data transfer located at each network element (Figure 2 (101), e.g., col./line: 19/38-42).

Re claim 10, Kai does not disclose, wherein the optical ring network structure is arranged in a manner such that the redundant data transfer is transmitted only in response to a failure. However, it would have been obvious to one of ordinary skill in the art at the time of invention to only transfer redundant data in the event of failure since power can be save at each transmission node by turning off transmitters during normal operation.

Re claims 14 and 16, Kai disclosed

an optical ring network wherein the propagation directions of alternating groups of wavelengths with respect to the ring network structure are opposed to one another (Figure 1, $\lambda_1 \dots \lambda_4$, $\lambda_5 \dots \lambda_8$)

Re claim 15, Kai does not disclose wherein the groups of wavelengths each comprise a single transmission channel. However, it would have been obvious to one of ordinary skill in the art at the time of invention to reduce the group size to one particularly for saving transmitters and receivers if only one channel is needed in each direction. Furthermore, changing the number of wavelengths is not considered patentable over the prior art.

8. Claim 9 (insofar as it is understood based on the 112 1st/2nd paragraphs above) is rejected under 35 U.S.C. 103(a) as being unpatentable over Kai et al. US 6,278,536 B1 in view of Egnell et al. US 6,590,681 (Egnell).

Egnell does not disclose using amplifiers for selecting between the received data and redundant data. Egnell disclose using amplifiers to select respective links (see Figure 2 15e, 29w, 15w, 29e, e.g., col./line: 5/35-50). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the switch function and amplifier in the Kai invention for the benefit of both selecting redundant data and amplifying added signals in a node in one device.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (703) 306-0004. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Art Unit: 2633

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Dcp



JASON CHAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600